

REMARKS

In the Office Action, the Examiner noted that Claims 1-20 are pending in the application, Claims 1, and 11-20 stand rejected, Claims 2-5 are objected to but would be allowable if rewritten in independent form, and Claims 6-10 are allowed.

Drawings

The Examiner has objected to the drawings as failing to comply with 37 CFR §1.84(p)(5) because they include reference character(s) 56 and 76 not mentioned in the description. The Applicant has revised FIGS. 4 A) and B) and deleted reference character 56. See the attached Replacement Sheet for FIGS. 4 A) and B). The Applicant further amended the specification to include reference character 76, which is the composite sheet material under normal force. The Applicant thanks the Examiner for her thoughtful comments and respectfully requests withdrawal of this objection.

The Examiner has objected to the drawings under 37 CFR §1.83(a) because they fail to show "two electrical pathways 81" and "two electrical pathways 91" as described in the specification. The Applicant has revised FIGS. 6 A), B) and C), and 7 A), B) and C) and in each case has particularly pointed out the two electrical pathways. See the attached Replacement Sheets for FIGS. 6 and 7. The Applicant thanks the Examiner for her thoughtful comments and respectfully requests withdrawal of this objection.

Rejection under 35 USC §102

Claim 1 was rejected under 35 USC §102(b) as being anticipated by Starr, Jr. (US Pat. No. 4,466,274). Claim 1 as amended is not anticipated by Starr. Starr does not teach a sensor providing two conductive element layers and a flexible material interposed between and in contact with the two conductive element layers. Starr doesn't teach of a sensor, but rather of a sliding film rheometer for measuring molten polymer viscosity. In Starr, the sensors appear to be strain gauges used to measure the forces required to pull a molten material through the viscometer. In addition, the molten polymer material in Starr is not part of a sensor, but rather the object of analysis. Given the reasons set forth in this response, the Applicants respectfully request withdrawal of this rejection.

Claims 11-20 were rejected under 35 USC §102(e) as being anticipated by Repperger et al. (US Pat. No. 6,736,015). The Applicants respectfully submit that the Examiner has not established a prima facie case of anticipation. With respect to Claim 11, Repperger et al. does not teach a method of designing an object or device nor any of the particular steps of the claimed method. Repperger et al. does not teach applying the claimed sensors to a prototype of an object or device being designed, using the prototype design in at least one application over a test period of time, measuring both the shear and normal forces encountered at the sensor locations of the prototype design over at least part of the test time period, and modifying the design of the object or device based on the forces encountered by the prototype design during the application or test. Further, Repperger et al. does not teach of applying at least two flexible, compliant sensors capable of simultaneously measuring both shear and normal forces to locations on a prototype design of an object or device being designed as claimed. The sensor in Repperger et al. apparently is made from a stiff, extremely high modulus piezoelectric material. The sensor still further when modified apparently can only measure shear forces. Still even further, the modification of the sensor in Repperger et al. necessary to measure shear forces requires that the sensor be tightly "jammed between two sticks" made of rigid material, column 3, lines 40-42. With respect to Claim 12, in addition to the previous comments, Repperger et al. does not teach of a method of designing an object or device using a statically responsive sensor. With respect to Claims 13-20, in addition to the above comments, Repperger does not teach a method of designing and modifying medical devices, athletic footwear, or consumer goods including automobiles or household furnishings. Repperger further does not teach the design of these types of devices or objects by testing prototypes with these types of sensors on them during sporting events, through use by a patient, or through applications by a typical consumer. Given the reasons set forth in this response, the Applicants respectfully request withdrawal of this rejection.

CONCLUSION

For all the above reasons the Applicants respectfully submit that the application is in condition for allowance and that action is earnestly solicited.

Respectfully submitted,

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Dated



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